

Figure S1. Relative expression of GPR109A. Relative expression of GPR109A after transfection with GPR109A-shRNA1 and GPR109A-shRNA2. The values are presented as the means \pm SD (* p <0.05 vs NC and ** p <0.01 vs NC).

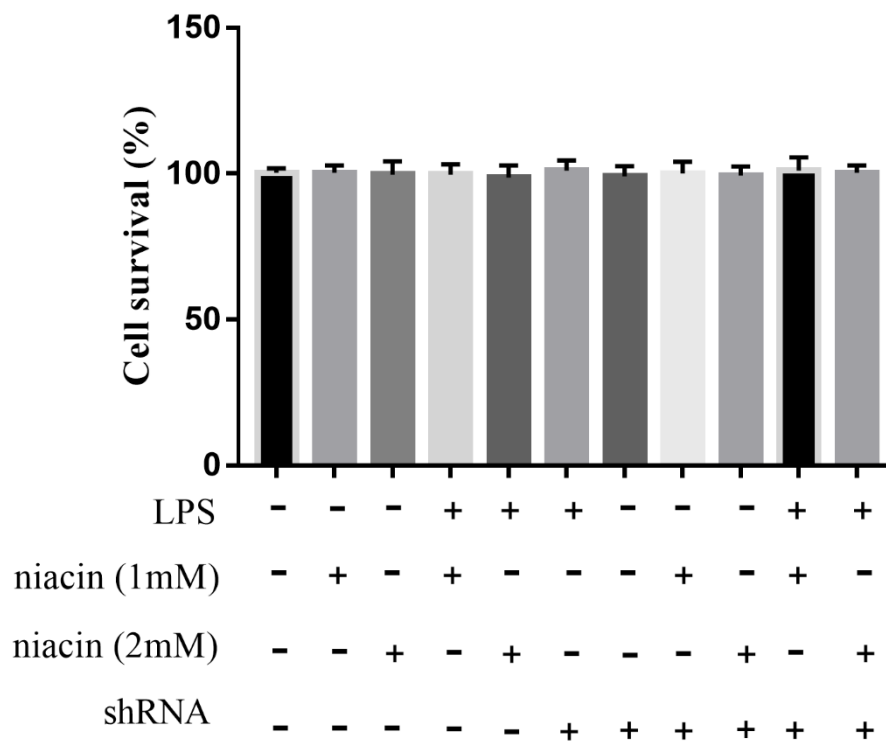


Figure S2. The effect of niacin on the activity of BMECs. The effect of adding niacin, niacin+LPS, LPS, niacin+LPS+shRNA on the BMECs in the identified groups was determined by CCK-8 assay (n=5). The values are presented as the means \pm SD. There were no differences between the NT and the other groups.

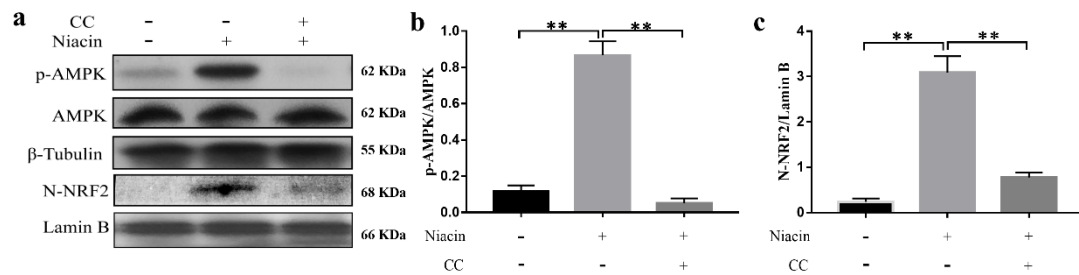


Figure S3. The effects of p-AMPK on NRF-2 nuclear import. The cells from different experimental groups were treated with niacin, CC+niacin or RA+niacin for 24 h, and then, the total protein or RNA was then collected. N-NRF-2 means NRF-2 in the nucleus. The cell lysates were prepared and subjected to western blotting using p-AMPK (a, b) and NRF-2 (a, c) antibodies. Each immunoreactive band was digitized and expressed as a portion of the laminin B or β -tubulin level. Values are presented as the means \pm SD (* p <0.05 and ** p <0.01).

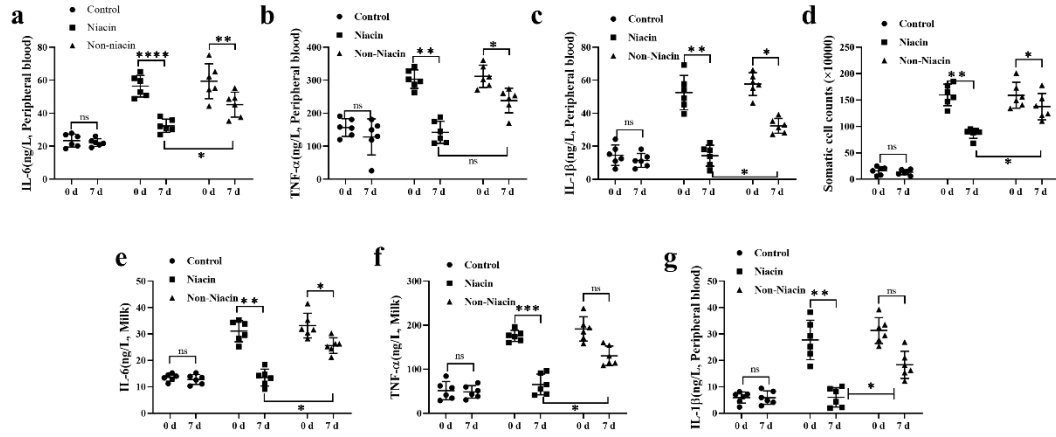


Figure S4. Niacin alleviates dairy cow mastitis by activating GPR109A. Control group was healthy dairy cow; niacin group was mastitis cow fed with niacin (30 g / d, continuous feeding for seven days); non-niacin group was mastitis cow without feeding niacin; (a-c) Contents of IL-6, TNF-α and IL-1β in serum. (d) SCC in milk. (e-g) Contents of IL-6, TNF-α and IL-1β in milk. Values are presented as means ± SD (n=6) (* $p < 0.05$, ** $p < 0.01$ and *** $p < 0.001$).